UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,204	03/23/2001	Masayuki Kobayashi	F-6917	5830

7590 11/14/2006

JORDAN AND HAMBURG
122 East 42nd Street
New York, NY 10168

EXAMINER	
WANG, JIN CHENG	
ART UNIT	PAPER NUMBER
2628	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/816,204	KOBAYASHI, MASAYUKI	
	Examiner	Art Unit	
	Jin-Cheng Wang	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8 and 10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 4-8 and 10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's submission filed on 9/21/2006 has been entered. Claims 1, 8 and 10 have been amended. Claims 2-3,9 and 11 have been canceled. Claims 1,4-8 and 10 are pending in the application.

Response to Arguments

Applicant's arguments filed September 21, 2006 have been fully considered but are moot in view of the new ground(s) of rejection.

As address below, the Claim 1 is fulfilled by Goddard et al. U.S. Patent No. 6,104,402. Goddard discloses a game system for projectively transforming a plurality of polygons, which form a three-dimensional object located in an imaginary three-dimensional space, to a viewpoint coordinate system to draw the polygons on a projection plane (See Figs. 3-19), comprising:

A polygon drawing means for drawing a polygon with a first texture which affects drawing of another texture (*Figs. 1-3 and 19 wherein the texture of the Human's figure object affects the drawing of the texture of the background objects as the object is moving along the background objects comprising at least a polygon with at least one texture; see column 6, lines 10-36*);

A calculation means for calculating two-dimensional coordinates of a second texture by projectively transforming (*The cited reference discloses the coordinate transformation at Fig. 10 and column 17, lines 1-10 wherein the two-dimensional planar images are rendered from the three-dimensional space*) three-dimensional coordinates of vertexes of the polygon drawn by the

polygon drawing means (*Figs. 10 and 19 and column 12, lines 1-10 disclosing the vertices of polygons*) onto an imaginary two-dimensional plane which is prepared in advance and corresponds to the two-dimensional coordinates to produce two-dimensional vertex coordinates (*the cited reference at column 6, lines 10-36 discloses background objects as a plurality of polygons wherein each polygon is defined by three-dimensional coordinate data and texture data*);

A second texture drawing means for drawing the second texture, which is a still image texture prepared in advance (*See column 11, lines 60-65 as disclosing the coordinate data and texture data on polygons for each object stored in the image data area of the RAM*), on the polygon drawn by the polygon drawing means based on the two-dimensional vertex coordinates of the second texture calculated by the calculating means (*The cited reference discloses the coordinate transformation at Fig. 10 and column 17, lines 1-10 wherein the two-dimensional planar images are rendered from the three-dimensional space; The cited reference discloses at Fig. 19 and column 15, lines 1-55 that coordinate transformation is made such that the Z coordinate data in the three-dimensional coordinate data for the polygon constituting the moving object 1 is increased to represent the moving object 1 and the X and/or Y counter values are changed so as to move the object 1 in certain direction*); and

A texture moving means for simulatively moving (*The cited reference discloses at Fig. 19 and column 15, lines 1-55 that coordinate transformation is made such that the Z coordinate data in the three-dimensional coordinate data for the polygon constituting the moving object 1 is increased to represent the moving object 1 and the X and/or Y counter values are changed so as to move the object 1 in certain direction*) in the display the second texture, drawn by the second

texture drawing means (*Fig. 19*), on the polygon drawn by the polygon drawing means by successively varying the two-dimensional coordinates of the second texture in time-series (*See column 12, lines 50-65 and column 14, lines 50-67 as disclosing the moving object moved at a speed commensurate with the amount of inclination as to the direction of joystick inclination by gradually varying the three-dimensional coordinate data for the polygon depending upon the count values of the X counter and Y counter*) relative to the previously calculated two-dimensional vertex coordinates (*e.g., the cited reference discloses at column 15, lines 4-55 the X, Y coordinates of the moving object 1*) so that the second texture picture appears to be a moving image relative to the polygon when displayed (*The cited reference discloses at column 17-18 that the moving object 1 passes through the building and the tree wherein the building has the largest depth value and the tree has the smallest depth value so that the moving object 1 passes on a deeper side of the tree 3 and its portion hidden by leaves of the tree 3. The cited reference also discloses that the moving object 1 moves behind the building 2 and the tree 3 so that the color data on the dots for all the polygons of the moving object 1 not to be written into the image buffer*).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 4-8 and 10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The amended claim 1 recites "successively varying the two-dimensional coordinates of the second texture in time series relative to the previously calculated two-dimensional vertex coordinates so that the second texture picture appears to be a moving image relative to the polygon when display". However, "second texture" as recited in the claim undergoes an effect of gradation by the first texture and mixing the colors of the first texture and the colors of the second texture as evidenced in the dependent claims 6-7. Applicant's claim 1 also recites "a polygon drawing means for drawing a polygon with a first texture which affects drawing of another texture". From the amended claim 1 as whole, "second texture" is related to "first texture" by projectively transforming three-dimensional coordinates of vertexes of the polygon drawn by the polygon drawing means. "First texture" is clearly related to the texture on the three-dimensional polygon and the second texture is related to the projection of the first texture on the two-dimensional plane. However, this results in a contradiction because the dependent claims 6-7 recite the mixing of the colors of the first texture and the colors of the second texture, which only happens either after projection wherein there is no first texture available because the first texture becomes the second texture after projection. The claim 1 as a whole was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicant claim 1 also recites "a polygon drawing means for drawing a polygon with a first texture which affects drawing of another texture." However, it is the second texture which affects drawing of the first texture, as opposed to the first texture affects drawing of another texture as claimed.

The claims 4-7 depend upon the claim 1 and are rejected due to their dependency on the claim 1.

The claims 8 and 10 are subject to the same rationale of rejection set forth in the claim 1.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 4-8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The amended claim 1 recites "successively varying the two-dimensional coordinates of the second texture in time series relative to the previously calculated two-dimensional vertex coordinates so that the second texture picture appears to be a moving image relative to the polygon when display" and "a polygon drawing means for drawing a polygon with a first texture which affects drawing of another texture." However, it is not clear how the "first texture", "another texture" and "second texture" are related to each other. It is confusing from the claim language because "second texture" should affect "first texture" as evidenced in the dependent claims 6-7. However, the recitation of "a first texture which affects drawing of another texture"

is confusing because applicant's Fig. 7 shows that the second texture affects drawing of the first texture. Clarification is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Goddard et al. U.S. Patent No. 6,104,402 (hereinafter Goddard).

Re Claim 1:

Goddard discloses a game system for projectively transforming a plurality of polygons, which form a three-dimensional object located in an imaginary three-dimensional space, to a viewpoint coordinate system to draw the polygons on a projection plane (See Figs. 3-19), comprising:

A polygon drawing means for drawing a polygon with a first texture which affects drawing of another texture (*Figs. 1-3 and 19 wherein the texture of the Human's figure object affects the drawing of the texture of the background objects as the object is moving along the*

background objects comprising at least a polygon with at least one texture; see column 6, lines 10-36);

A calculation means for calculating two-dimensional coordinates of a second texture by projectively transforming (*The cited reference discloses the coordinate transformation at Fig. 10 and column 17, lines 1-10 wherein the two-dimensional planar images are rendered from the three-dimensional space*) three-dimensional coordinates of vertexes of the polygon drawn by the polygon drawing means (*Figs. 10 and 19 and column 12, lines 1-10 disclosing the vertices of polygons*) onto an imaginary two-dimensional plane which is prepared in advance and corresponds to the two-dimensional coordinates to produce two-dimensional vertex coordinates (*the cited reference at column 6, lines 10-36 discloses background objects as a plurality of polygons wherein each polygon is defined by three-dimensional coordinate data and texture data*);

A second texture drawing means for drawing the second texture, which is a still image texture prepared in advance (*See column 11, lines 60-65 as disclosing the coordinate data and texture data on polygons for each object stored in the image data area of the RAM*), on the polygon drawn by the polygon drawing means based on the two-dimensional vertex coordinates of the second texture calculated by the calculating means (*The cited reference discloses the coordinate transformation at Fig. 10 and column 17, lines 1-10 wherein the two-dimensional planar images are rendered from the three-dimensional space; The cited reference discloses at Fig. 19 and column 15, lines 1-55 that coordinate transformation is made such that the Z coordinate data in the three-dimensional coordinate data for the polygon constituting the moving*

object 1 is increased to represent the moving object 1 and the X and/or Y counter values are changed so as to move the object 1 in certain direction); and

A texture moving means for simulatively moving (*The cited reference discloses at Fig. 19 and column 15, lines 1-55 that coordinate transformation is made such that the Z coordinate data in the three-dimensional coordinate data for the polygon constituting the moving object 1 is increased to represent the moving object 1 and the X and/or Y counter values are changed so as to move the object 1 in certain direction*) in the display the second texture, drawn by the second texture drawing means (*Fig. 19*), on the polygon drawn by the polygon drawing means by successively varying the two-dimensional coordinates of the second texture in time-series (*See column 12, lines 50-65 and column 14, lines 50-67 as disclosing the moving object moved at a speed commensurate with the amount of inclination as to the direction of joystick inclination by gradually varying the three-dimensional coordinate data for the polygon depending upon the count values of the X counter and Y counter*) relative to the previously calculated two-dimensional vertex coordinates (*e.g., the cited reference discloses at column 15, lines 4-55 the X, Y coordinates of the moving object 1*) so that the second texture picture appears to be a moving image relative to the polygon when displayed (*The cited reference discloses at column 17-18 that the moving object 1 passes through the building and the tree wherein the building has the largest depth value and the tree has the smallest depth value so that the moving object 1 passes on a deeper side of the tree 3 and its portion hidden by leaves of the tree 3. The cited reference also discloses that the moving object 1 moves behind the building 2 and the tree 3 so that the color data on the dots for all the polygons of the moving object 1 not to be written into the image buffer*).

Claims 8 and 10:

The claims 8 and 10 are subject to the same rationale of rejection set forth in the claim 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goddard et al. U.S. Patent No. 6,104,402 (hereinafter Goddard) in view of Suzuki et al. U.S. Patent No. 6,587,106 (hereinafter Suzuki) and Yasui U.S. Patent No. 6,320,580 (hereinafter Yasui).

Re Claims 4-7:

Goddard discloses a game system for projectively transforming a plurality of polygons, which form a three-dimensional object located in an imaginary three-dimensional space, to a viewpoint coordinate system to draw the polygons on a projection plane, comprising:

A polygon drawing means for drawing a polygon with a first texture which affects drawing of another texture (*Figs. 1-3 and 19 wherein the texture of the Human's figure object affects the drawing of the texture of the background objects as the object is moving along the background objects comprising at least a polygon with at least one texture; see column 6, lines 10-36*);

A calculation means for calculating two-dimensional coordinates of a second texture by projectively transforming (*The cited reference discloses the coordinate transformation at Fig. 10*

and column 17, lines 1-10 wherein the two-dimensional planar images are rendered from the three-dimensional space) three-dimensional coordinates of vertexes of the polygon drawn by the polygon drawing means (*Figs. 10 and 19 and column 12, lines 1-10 disclosing the vertices of polygons*) onto an imaginary two-dimensional plane which is prepared in advance and corresponds to the two-dimensional coordinates to produce two-dimensional vertex coordinates (*the cited reference at column 6, lines 10-36 discloses background objects as a plurality of polygons wherein each polygon is defined by three-dimensional coordinate data and texture data*);

A second texture drawing means for drawing the second texture, which is a still image texture prepared in advance (*See column 11, lines 60-65 as disclosing the coordinate data and texture data on polygons for each object stored in the image data area of the RAM*), on the polygon drawn by the polygon drawing means based on the two-dimensional vertex coordinates of the second texture calculated by the calculating means (*The cited reference discloses the coordinate transformation at Fig. 10 and column 17, lines 1-10 wherein the two-dimensional planar images are rendered from the three-dimensional space; The cited reference discloses at Fig. 19 and column 15, lines 1-55 that coordinate transformation is made such that the Z coordinate data in the three-dimensional coordinate data for the polygon constituting the moving object 1 is increased to represent the moving object 1 and the X and/or Y counter values are changed so as to move the object 1 in certain direction*); and

A texture moving means for simulatively moving (*The cited reference discloses at Fig. 19 and column 15, lines 1-55 that coordinate transformation is made such that the Z coordinate data in the three-dimensional coordinate data for the polygon constituting the moving object 1 is*

increased to represent the moving object 1 and the X and/or Y counter values are changed so as to move the object 1 in certain direction) in the display the second texture, drawn by the second texture drawing means (*Fig. 19*), on the polygon drawn by the polygon drawing means by successively varying the two-dimensional coordinates of the second texture in time-series (*See column 12, lines 50-65 and column 14, lines 50-67 as disclosing the moving object moved at a speed commensurate with the amount of inclination as to the direction of joystick inclination by gradually varying the three-dimensional coordinate data for the polygon depending upon the count values of the X counter and Y counter*) relative to the previously calculated two-dimensional vertex coordinates (*e.g., the cited reference discloses at column 15, lines 4-55 the X, Y coordinates of the moving object 1*) so that the second texture picture appears to be a moving image relative to the polygon when displayed (*The cited reference discloses at column 17-18 that the moving object 1 passes through the building and the tree wherein the building has the largest depth value and the tree has the smallest depth value so that the moving object 1 passes on a deeper side of the tree 3 and its portion hidden by leaves of the tree 3. The cited reference also discloses that the moving object 1 moves behind the building 2 and the tree 3 so that the color data on the dots for all the polygons of the moving object 1 not to be written into the image buffer*).

Goddard is silent to the claim limitation of luminance of colors of the second texture being different in different areas in the second texture, the second texture undergoing an affect of gradation by the first texture, and the gradation executed by mixing the colors of the first texture and the colors of the second texture with a predetermined mixing ratio. However, Goddard discloses in column 18, lines 30-50 that the background object and the moving object are

combined with and the color data stored by the image buffer is read out in synchronism with raster scanning and therefore suggesting the first texture of the background object and the second texture of the moving object are combined to change the luminance of colors of the second texture and thus affecting the gradation of the second texture and the colors (dots) of first texture and the second texture are mixed together by combining the background object and the moving object.

Suzuki discloses at column 15, lines 30-40 the shading method given by "glow-shading" to shade the textures of the polygon and thus the luminance of colors of the second texture is changed in different areas in the second texture by glow-shading and changes the gradation of the second texture by glow-shading. Suzuki discloses at column 14, lines 45-55 keyframe interpolation wherein the first texture and the second texture are combined so as to change the colors including the luminance of the colors. Suzuki discloses changes of colors (column 11, lines 45-60) wherein a shading method is applied to calculate various elements including the number of polygons, textures, faces etc.

Yasui teaches luminance of colors of the second texture is different in different areas in the second texture (col. 2, lines 6-29). Yasui teaches blending the colors of a polygon with the color of polygon located in the background. When blending colors then the color textures are different. Yasui teaches luminance of colors of the second texture vary in proportion to coordinate value in either one direction of the two-dimensional coordinates if the two-dimensional coordinates are fixed (figs. 48 and 51).

It would have been obvious to one of the ordinary skill in the art at the time the invention was made to have incorporated Goddard and/or Yasui into Goddard to process the graphics data

to animate the characters in a game. This is because Goddard suggests the claim limitation of combining the first texture and the second texture. Goddard discloses in column 18, lines 30-50 that the background object and the moving object are combined with and the color data stored by the image buffer is read out in synchronism with raster scanning and therefore suggesting the first texture of the background object and the second texture of the moving object are combined to change the luminance of colors of the second texture and thus affecting the gradation of the second texture and the colors (dots) of first texture and the second texture are mixed together by combining the background object and the moving object. Suzuki also discloses other claim limitations set forth in the claim 1 including the moving object walking through the stairs or on the floor so that the textures of the moving objects are combined with the textures of the stairs/floors. Both references teach a moving object walking through a building. Suzuki also discloses the perspective projection from the three-dimensional space into the two-dimensional space along a predetermined viewline (See column 11, lines 25-40).

One of the ordinary skill in the art would have been motivated to do so to have animated the moving objects allowing the shading method to be applied to the textures of the polygons when the moving object and the background objects are overlapped (See Goddard column 17-18 and Suzuki column 11, lines 45-60 and Yasui column 1, lines 5-52).

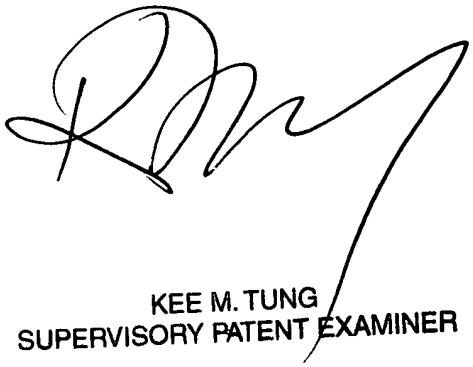
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jcw



KEE M. TUNG
SUPERVISORY PATENT EXAMINER